

AMENDMENTS TO THE CLAIMS:

1. (Currently amended) A method for fabricating a semiconductor device comprising the steps of:

(a) performing a first thermal treatment at a temperature within 650-750 °C for 30-240 minutes; and

(b) after the step (a), performing a second thermal treatment at a temperature within 900-1100 °C for 30-120 minutes,

wherein the first and the second thermal treatments are the initial a sequence of thermal treatments initially performed on a semiconductor substrate composed of silicon after the semiconductor substrate is introduced into a fabricating process, and the first and the second thermal treatments are performed sequentially in the same heating apparatus.

2. (Original) The method of claim 1, wherein the first thermal treatment and the second thermal treatment are both performed at a temperature increasing rate between 1-8 °C/min, and a temperature decreasing rate between 1-60 °C/min.

3. (Original) The method of claim 1 further comprises steps,

(c) after the step (b), performing a third thermal treatment on the semiconductor substrate such that metal impurities are diffused to gettering sites, and

(d) after the step (c), forming a gate insulating film on the principal surface of the semiconductor substrate.

4. (Original) The method of claim 3, wherein in the step (c), gettering sites composed of a bulk microdefect (BMD) layer are formed at a depth of 1-10 μm from the surface of the semiconductor substrate by the third thermal treatment, and the concentration of the gettering sites is between $5 \times 10^8 \text{ cm}^{-3}$ and $5 \times 10^{10} \text{ cm}^{-3}$, inclusively.

5. (Original) The method of claim 3, wherein thermal budgets in the first thermal treatment, the second thermal treatment and the third thermal treatment are set within a range that maintains the characteristics of the semiconductor device.

6. (Currently amended) A method for fabricating a semiconductor device comprising the steps of:

(a) forming an isolation film on a semiconductor substrate composed of silicon;

(b) forming a gate insulating film on the principal surface of (a) the semiconductor substrate composed of silicon; and

(b) (c) after forming the isolation film and before forming the gate insulating film, performing a thermal treatment on the semiconductor substrate such that metal impurities are diffused to gettering sites.

7. (Original) The method of claim 6, wherein gettering sites composed of a bulk microdefect (BMD) layer are formed at a depth of 1-10 μm from the surface of the semiconductor substrate by the thermal treatment, and the concentration of the gettering sites is between $5 \times 10^8 \text{ cm}^{-3}$ and $5 \times 10^{10} \text{ cm}^{-3}$, inclusively.

8. (Currently amended) A semiconductor substrate composed of silicon, the semiconductor substrate having gettering sites composed of a bulk microdefect (BMD) layer formed at a predetermined depth from the surface of the semiconductor substrate by performing initial thermal treatments on the semiconductor substrate, but having no Denuded Zone (DZ) in an upper portion thereof, the initial thermal treatments including a first thermal treatment performed at a temperature within 650-750 °C for 30-240 minutes and a second thermal treatment performed at a temperature within 900-1100 °C for 30-120 minutes after the first thermal treatment,

wherein the predetermined depth is smaller than or equal to a diffusion distance of metal impurities to the gettering sites.

9. (Currently amended) A semiconductor substrate composed of silicon, the semiconductor substrate on which top surface an epitaxial layer having a predetermined thickness is formed, the semiconductor substrate, on which the epitaxial layer is formed, having gettering sites composed of a bulk microdefect (BMD) layer formed below the epitaxial layer by performing initial thermal treatments on the semiconductor substrate, the initial thermal treatments including a first thermal treatment performed at a temperature within 650-750 °C for 30-240 minutes and a second thermal treatment performed at a temperature within 900-1100 °C for 30-120 minutes after the first thermal treatment,

wherein nitrogen atoms that function as precipitation nuclei of the gettering sites are added to the semiconductor substrate, and

the thickness of the epitaxial layer is smaller than or equal to a diffusion distance of metal impurities to the gettering sites.

10. (Currently amended) A semiconductor substrate composed of silicon, the semiconductor substrate having gettering sites composed of a bulk microdefect (BMD) layer at a predetermined depth from the surface of the semiconductor substrate, but having no Denuded Zone (DZ) in an upper portion thereof, wherein the predetermined depth is smaller than or equal to a diffusion distance of metal impurities to the gettering sites.

11. (Currently amended) A semiconductor substrate composed of silicon, the semiconductor substrate on which principal surface an epitaxial layer having a predetermined thickness is formed, and having gettering sites composed of a bulk microdefect (BMD) layer below the epitaxial layer,

wherein nitrogen atoms that function as precipitation nuclei of the gettering sites are added to the semiconductor substrate, and

the thickness of the epitaxial layer is smaller than or equal to a diffusion distance of metal impurities to the gettering sites.

12. (New) The method of claim 1, wherein in the step (b), gettering sites composed of a bulk microdefect (BMD) layer are formed at a predetermined depth from the surface of the semiconductor substrate, but no Denuded Zone (DZ) is formed in an upper portion of the semiconductor substrate.